



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

HC
383
.H63

A 898,302



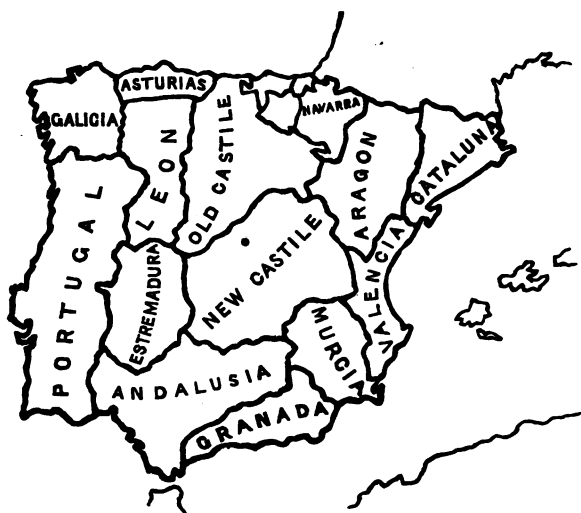
COMMERCIAL

AND

INDUSTRIAL SPAIN.

103763

BY GEORGE HIGGIN, MEM. INST. C.E.



LONDON:
EFFINGHAM WILSON, ROYAL EXCHANGE

1886.

HC

383

.H63

Reclass. 11-G-29 E.R.

CONTENTS.

	PAGE
CHAP. 1.—GENERAL OBSERVATIONS	1
„ 2.—GENERAL TRADE STATISTICS	20
„ 3.—RAILWAYS	36
„ 4.—ROADS, TELEGRAPHS, MINES, PORTS, &c. ...	62
„ 5.—CLIMATE, AGRICULTURE, AND IRRIGATION ...	83
„ 6.—RÉSUMÉ	103

(This Work, with very considerable Additions, is Reprinted from the
“ Fortnightly Review,”)

COMMERCIAL & INDUSTRIAL SPAIN.

CHAPTER I.

GENERAL OBSERVATIONS.

OF all the lands with which Great Britain carries on her multifarious traffic there is probably none concerning which greater real ignorance exists, and about which the English people understand less, than Spain.

It seems strange that it should be so. It is extraordinary that we should take so slight an interest in a country which three hundred years ago was the dominant one in Europe, one of whose kings was mated with one of our own queens, and whose powerful armada threatened the shores of the land which now proclaims herself mistress of the seas. Yet so it is. The land that produced Cervantes, Lope de Vega, and Calderon amongst writers ; Murillo, Velazquez, and Ribera amongst painters ; not to mention a host of minor writers

and painters who would have made the literary and artistic fortune of less favoured lands—the land that sent forth the warriors that discovered and conquered the new world—that alone amongst the nations of the earth has been able to compete with England in colonisation—this land is the one about which the English nation least concerns itself at the present day—about which it knows less, or, at all events, about which its knowledge is most superficial and least reliable.

Apart from the few who by nature of their occupations are brought into more or less direct contact with the country and its people, the amount of ignorance that exists amongst the English public as to the present position and prospects of Spain is something ludicrous.

There are two classes of travellers in Spain : the romantic, and him whom, for want of a better name, we will call “the British ”; and both bring back an equally unreliable account of the country.

To the romantic Englishman Spain is a land altogether apart and different from all others.

To his mental vision it is a strange and wonderful country, a splendid ruin, wrapt in a wonderful

haze of romance and beauty; a land where still under the shade of fragrant orange groves,

“Beneath soft Eve’s consenting star,
Fandango twirls his jocund castanet.”

Where the proud noble paces with stately tread in his flowing cloak, and muses upon the past glories of his country; and the happy peasant, carolling cheerfully beneath his ever blue sky, presents a spectacle of sobriety, courteousness, and contentment unknown in less favoured climes.

This is the “lovely Spain, renowned, romantic land” of Byron, the land of the poets and poetical historians, the land which they approach for the first time with enthusiasm, feeling as they near her rocky barriers a strange beating of their hearts, as though now at last all their youthful romantic dreams were going to be realised.

It is extraordinary how this romantic, unreal view of the country has been kept up by many of the writers who have recorded for the benefit of their countrymen the history of their travels and adventures therein.

It is at all times an ungracious task to destroy an illusion which, however false, is yet pleasing.

These travellers enter Spain with a preconceived idea—they very soon find the bare reality in rude antagonism with it, but they cannot believe they have been so entirely misled; by a continuous mental struggle they keep themselves up to the mark they had previously made, assisted in no small degree by the wonderfully exhilarating air and clear blue sky; they travel onward in a constant state of enthusiasm, and return to add another chapter to the book of false impressions already existing.

Only on this hypothesis can we account for the wonderful productions which do duty as records of travel and adventure in Spain.

In contradistinction to the romantic traveller we have him whom we have denominated “the British.”

To him everything Spanish is anathema.

Everything that does not exactly tally with his own English ideas is wrong and barbarous.

He carries with him in his mind a preconceived model framed on his own insular experience, and on this inflexible Procrustean bed he stretches all the facts and things that come before him, and

everything that does not exactly conform thereto is at once set down as being wrong.

He cannot abstract himself from the tone and mode of thought in which he has been brought up from childhood, nor conceive that other nations may, and must, have different modes of life and thought, due to the variation of race and climate, and that it is just possible that their way of looking at things may—taking into account these differences—be right and his own wrong. Nor can he make allowance for the different state of progress of the countries he visits. To him, therefore, everything is wrong: the food is villainous; the customs detestable; the manners of the people outrageous; he sees a would-be assassin in every labourer who approaches him, and a brigand in every muleteer he meets; his only moments of happiness are when he meets a brother Englishman of his own stamp with whom conjointly he can rail at the country; his temper is constantly being ruffled by each insignificant *contretemps*—and he returns to his own land, shaking the dust from his feet, to draw a picture of the country he has left equally false and misleading as the other.

If, again, we turn to the political news which we read in the daily journals, we are scarcely better off.

As a general rule the information sent over by the correspondents of the English papers is as little reliable as that contained in the books of travel. The commercial importance of Spain to England is not sufficiently great to warrant the employment of highly-paid correspondents. Unless, on such occasions as the Revolution of 1868, or the Carlist war, when men of undoubted standing and ability were sent out, the ordinary peace correspondent is not of such a class as to give him the *entrée* of the ministries and great houses, where alone reliable information may be obtained. Their knowledge of the language is, as a rule, limited, and their insight into the character and idiosyncrasies of the people on a par with the former. Failing better authorities they are compelled to glean their information from the irresponsible chatter of the *cafés* or the equally irresponsible and utterly unreliable information contained in the rabid political papers of the day. In Madrid everyone is a politician; from the minister in his carriage down to the shoeblack in the streets, all

are alike bitten by the mania of politics, and each one is a partisan of one or other of the numerous parties that endeavour to divide amongst themselves the loaves and fishes of Government.

The press of Spain is in most cases used merely as a vehicle of personal abuse or as a means of arriving at a post under Government.

It is vain to expect from such a press any clear and dignified statement of politics, or any guidance as to the real aspirations and wishes of the country.

It is vain to expect from it even a truthful narration of facts. Each side will garble its statements, and suppress or magnify the truth according as it may suit the parties or the minister to which they are devoted.

In the *cafés* it is even more difficult to arrive at anything like certitude. There is in Madrid always a large population of *employés* in the different Government offices; and as at each change of Government almost the whole of them go out, down even to the porters, there is always, as it were, a relief shift, waiting the return to power of their friends and patrons.

There are thus two great parties, "The Outs" and "The Ins." Some of the *cafés* are more particularly affected by "The Outs," others by "The Ins"; and here at night they meet to discuss their prospects of going out or coming in.

The stories that get set afloat in these nightly reunions are something too wonderful. If there is in reality no news, some story is quickly invented. With the rapidity of lightning it passes from table to table, ever growing and accreting to itself new material, till, ere the night closes in, it stands, fully dressed, a portentous miracle of fiction. It needs a clear head and a thorough knowledge of the people and country to extract the small kernel of truth that may lie concealed in the middle of such a story, and to discover whether or no one is only being made the dupe of some partisan of the opposition for whom no misrepresentation of the existing powers is too gross.

It is thus that we see sometimes in the English papers, and those even of the very highest standing, the most ludicrous accounts of things which have been or are taking place in Spain, and read the most wonderful prophecies of events never destined to be realised.

But even supposing that the information that we received from Spain as to political events were as truthful as could be desired, we should still be as far off as ever from obtaining any real information as to the true state of the country.

The political notabilities who rise and fall with such amazing rapidity in Spain, and whose names figure in our newspapers as the arbiters of their country's destinies, have really very little to do with it; they are merely the top foam on a wave that is ever advancing. They gleam and glitter in the bright sunshine of a temporary popularity, but in reality afford no index of the force or depth of the wave on whose surface they disport themselves.

In all countries and under all climes the governing men of the day are—save in very exceptional cases—merely the representatives of the hidden forces of the nation—they do not lead, but are driven. Like the fly on the wheel, our Chamberlains and Gladstones think they kick up a tremendous dust, and that the great wheel could not revolve without them, but in reality their influence for good is very small; they are unfortunately more potent for evil.

If this is true of most nations, it is more particularly so of Spain.

In that country, less than in any other, does the Government of the day affect the general march of the country.

Taken in broad and general lines, it is of course true to say that the progress of the country may be followed by the course of political events, inasmuch as the governing class must be, more or less, in accord with the wishes and aspirations of the people if they desire long to retain the reins of power; but we should not be far wrong if we say that Spain advances in spite of her Governments, and not by their assistance or leading, so that they generally lag behind, and are dragged along by the current of events. Any one who would endeavour to foretell the progress of the country by its political leaders would most certainly be grievously led astray.

Thus it is that the news which we gather from our daily papers in regard to Spain gives us no true indication as to the real state of the country or of the progress it is making.

Barren notices of changes of ministry, *sensational accounts* of political disturbances, which are

unknown to the dwellers in the country, are the items which English readers receive as a history of the nation; and if we are to judge by these alone, we must picture to ourselves a race whose sole occupation is quarrelling and fighting.

Such indeed is the opinion formed of Spain by nine-tenths of the English people.

There is an old English proverb that says, "Give a dog a bad name and hang him." Spain has got a bad name, and in justice to the English people it is only fair to say that there is some reason for it. Constitutional in name, Spain has been for years, and still is to a great extent, a despotic country.

It is not easy for English people to conceive that the Cortes is in reality elected by the ministry of the day, and is, in fact, only a convenient constitutional cloak to cover the reality of a despotic Government.

The expression of public opinion which in England is shown at the electoral urns, or by the gradual secession of the Government supporters, in Spain could, until lately, only be shown by a "pronunciamiento."

It is not strange that this mode of giving expres-

sion to the popular will should not be understood in a country where Parliamentary Government is a reality and not a fiction. Spain has come to be looked upon, consequently, as a restless, unruly nation, fond of fighting for its own sake—in fact as a kind of Continental Ireland.

Since the accession of King Alfonso she has presented a spectacle—to her somewhat unusual—of a Government holding office for many years and presided over by a civilian; she has seen this ministry fall in a constitutional manner and be succeeded by another civilian prime minister, and she has at present before her a ministry that succeeded to power by the same constitutional means and under the enlightened rule of the same civilian who so well held the reins of power after the succession of King Alfonso.*

But Spain's bad name still sticks to her. If the Spaniards are not now indulging in "pronunciamientos" and revolution, according to poetical justice they ought to be doing so; and even a

* Since this was written Señor Canovas has resigned, and his place has been taken by Señor Sagasta at the head of a Coalition Liberal Ministry.

students' row, which in Oxford or Cambridge would not be mentioned by any but local papers, is, in the case of Spain, invested with all the pomp of a national revolution.

Spain is not yet by any means a settled country in the sense that England is, although she is infinitely more settled than France; but to regard her as a kind of seething political volcano is greatly to mistake her and misread the facts of her history.

It is difficult indeed for English people to comprehend the kind of dual life which Spain leads, or to understand how little the nation is affected by the apparently momentous changes which take place in her political atmosphere.

During the last twenty years Spain has gone through a series of political movements which might well have shaken the strongest nation and left her inert and lifeless; and yet during all this time the country has been advancing steadily, both materially and morally, and in such a manner as can only fill us with amazement at the intense vitality she must possess.

The Revolution of 1868, which expelled the

ancient dynasty was followed by a series of events sufficient to paralyse the energies of any nation : a long and bloody civil war in Cuba, her principal colony, which absorbed annually five or six millions of money and many thousands of lives ; a Carlist war at home which was not less bloody nor less costly ; violent, impossible, communistic attempts, which led to the bombardment and destruction of flourishing cities ; trials of every form of government which human ingenuity could devise—from the so called executive power of Prim to the absurd Republic of Castelar and Zorilla—with all the abrupt and radical changes of the mechanism of government consequent upon such proceedings ;—all these, spread over a term of seven years, would, one would think, be sufficient to destroy any nation, and yet during all this time Spain, as I have said, was steadily advancing in industry and commerce, and, save in the provinces or towns which were for the time the actual theatre of war the business of the nation went on as if nothing unusual were occurring.

That the country suffered, and suffered heavily, during this time is evident. As a matter of course

foreign capital kept aloof from such a troubled land, and native capital fled from it to England. The actual loss in materials and, what is more important, in the lives of those sacrificed in these fratricidal quarrels it would be difficult, nay impossible, to calculate. But that she was not utterly and irretrievably ruined or thrown back for years, but on the contrary advanced, shows the wonderful inherent vitality in the nation, and how little she is affected by changes that would utterly have destroyed any more highly organised community.

It is the object of the present pages to try and give some insight into the real forces which are at work in Spain, to gauge the depth and velocity of the wave of national life that is sweeping her along the path of progress, to examine the commercial and industrial side of her character, apart equally from the foolish romantic view of her which is taken by the well-meaning but fatuous writers of travels, as from the equally misleading view taken by the correspondents of our daily papers, who, unfortunately, think everything is said when they have fathomed and described the intrigues and counter-intrigues of the political

notabilities of the day, or have—probably with the best good faith—stated some of the strange stories fabricated in the heated atmosphere of a Madrid *café*.

Such a review will enable us to form a better opinion as to the real meaning of the political changes which have been and are still taking place in the nation, will explain to us the meaning of many events which would otherwise appear meaningless and inexplicable, and will give us a status from which to form some reliable forecast of the probable future of this once mighty kingdom.

To English people Spain ought always to be an interesting study. It is true that our commercial relations with her are relatively small; that we have allowed France and are now allowing Germany to take away from us a commerce that might have been ours; but, apart from the mere question of commercial interests, Spain has for England an interest of her own. She it was who first stood forth in mortal struggle against the world's conqueror, Napoleon; side by side with her people, and on her soil, our soldiers fought the great battle of the world's liberty. It was down her Pyrenean

glens that our own great soldier rolled "back to France her banded swarms," and the blood of many and many a noble Englishman sank into her thirsty soil, mingled with that of Spain's own gallant sons.

The Spanish and English characters are indeed in many points strangely alike. Spain ranks as one of the Latin nations, and the republican orators of Spain are content to look to France for light and leading in all their political combinations ; but a large mass of the nation, the bone and sinew of the country, the silent, toiling tillers of the soil, are not of this way of thinking. In their veins runs too much of the old Gothic blood, the hard, enduring fibre which furnished forth the warriors from Castile who marched in full armour across the tropical mountains of the new world ; who in bands of fifties and hundreds boldly launched themselves into the interiors of vast continents, and founded cities that are a wonder to us in these latter days who can realise to ourselves what such an undertaking required in those distant times. There is a sturdy independence in the Spanish character and an impatience of dictation that har-

monises more nearly with the English character than with that of her Latin neighbours.

Spain could never have afforded the spectacle that France did in her last great war.

Abandoned and deserted by her rulers in the time of the great Napoleon, Spain turned to bay, and rose as one man against her conqueror.

Without leaders or previous combination each individual peasant seized his gun and went forth to fight on his own account the common enemy, much as we should hope would be the case in England if ever, unfortunately, a foreign foe should gain footing in our isle.

There is a gravity and reticence also in the Spaniard that is absent from his mercurial neighbour, and which is indeed much more akin to our own cast of temper.

True it is that our insular manners form at first a bar to our intercourse with the Spaniard, who has been brought up in a school of deliberate and stately courtesy somewhat foreign to our business turn of mind; but how superficial this difference is may be seen by the strong attachment Englishmen form to the country and her people

when once the strangeness of first acquaintance is worn off ; and those of us who know the country best will tell you that they have no truer or more faithful friends than those they have amongst her people.

It is to be regretted both for our sakes and theirs that our acquaintanceship is not more intimate.

Spain offers a splendid field for our capital and industry, and her country would not suffer by acquiring some of the constitutional ways that have served to raise our own little isle to such a pinnacle of success.

CHAPTER II.

TRADE STATISTICS.

IN order to form an estimate of the present condition and future prospects of Spain, it will be convenient to take some point of comparison, and we will therefore compare the years of 1862-3 with those of 1882-3—taking thus a term of twenty years, and availing ourselves, for our information, of the official reports published by the different ministries. We cannot well take any later time than that selected, because the Government returns are generally issued with dilatoriness, and are not available till a year or two after the time they purport to report on; and it will be better not to extend our survey further back than twenty years, because the reports at this period are fuller and better than those of an earlier date.

It is true that these twenty years will embrace all the troublous times from the revolution of 1868 to the restoration of the monarchy in 1875, and it would scarcely seem to be fair therefore to select a period embracing such an abnormal epoch; but,

on the other hand, by so doing we shall best show the enormous strides that Spain has made, and exemplify the fact, before pointed out, that the progress of the country is, to a great extent, independent of the political changes that have been and are taking place in her, or rather, we should say, that these changes are the result of the forces at work beneath the surface, and that in order to rightly estimate them at their true value we require to study those other changes about which our ordinary newspaper correspondents give us no hint.

Before, however, giving any statistics as to the commercial and industrial aspect of the country it will be as well to dedicate a few lines to its general features as regards area, population, &c.

In regard to population, it will be advisable to take a wider survey than that of twenty years, we will commence therefore with this century and give a few of the returns of the census at different dates :—

1797	-	-	-	10,541,221
1831	-	-	-	11,207,639
1846	-	-	-	12,162,872
1860	-	-	-	15,673,536
1877 (last)	-	-	-	16,634,345

It will be seen from these figures that for the first fifty years of the present century the population increased but slowly, the increase being 1,621,651 in the forty-nine years, or say at the rate of 33,095 per year; and when we consider the frightful wars which desolated the country during this period, commencing with that known to us as the Peninsular war, and terminating with the first Carlist war, this is not to be wondered at, indeed it would not have been surprising if we had found an actual diminution instead of an increase.

In the fourteen years from 1846 to 1860, years of peace, we find an increase of 3,510,664, or say at the rate of 250,762 per year; whilst in the seventeen years from 1860 to 1877 we find only an increase of 960,809, or say at the rate of 56,518 per year.

It seems scarcely possible that this great comparative decrease in the population could be due solely to the wars that desolated the country from 1868 to 1875; but certainly a large proportion of it must be placed to this account. If no great battles were fought, yet scarcely a day passed without some skirmish in which many on both *sides were killed*; and if the roll of the year were

taken it would probably be found that the killed and wounded in this desultory fighting exceeded by far the loss that would have accrued from one of our great, short but sharp, modern wars.

The constant drain of men to Cuba during the years this warfare lasted, to replace those that were killed by the enemy or the climate, was certainly very great; and if a true record had been kept of the loss to the population from this source it would probably astonish every one.

The increase in the population of the cities between 1860 and 1877 has been very marked. Some portion of this may be accounted for by the war which drove many families from the country into the cities, and once established there, they did not care to remove back again to their country homes. Madrid, which has increased 21·43 per cent. since 1860 to the last census, probably owes a good deal to this cause; but Bilbao, which has increased 82·17 per cent., and Pontevedra, which has increased 195 per cent., can only owe their rapid rise to the development of commerce. In the case of Bilbao this is easily explained by the great impulse given by her iron mines; in that of Pontevedra it is not so easily explained.

The principal cities of Spain, in the order of their populations, are, according to the last census of 1877—

Madrid	-	-	-	397,816
Barcelona	-	-	-	248,943
Valencia	-	-	-	143,861
Seville	-	-	-	134,318
Malaga	-	-	-	115,882
Murcia	-	-	-	91,805

Of the remaining 43 capital cities, 30 contain under 30,000 inhabitants, the remaining 13 vary between 30,000 and 90,000.

The total area of Spain is 504,516 square kilometres, which corresponds to a population of 32·97 per square kilometre—the most populous province being Barcelona, with 108·82 inhabitants per square kilometre; the least populous being Cuenca, with 13·74 inhabitants per kilometre—this latter being a very mountainous district.

In 1860 only 19·97 per cent. of the population could read and write; this had increased in 1877 to 24·48 per cent., the rate of increase being 4·51 per cent.

The density of population in Spain as compared with that of France, England, or Italy is far from being what it might be, and probably would be, were she ever to enjoy a lengthened era of prosperity and peace ; but in comparing the relative densities of population of these countries the peculiar topographical features of Spain must not be lost sight of.

Spain is not by any means the fertile agricultural country it is often supposed to be by those who are ignorant of its configuration.

It is essentially a mountainous country. Several great mountain chains, such as the Pyrenees, the Sierra Nevada, the Sierra Morena, the Guadarramas, and other minor ones too numerous to mention, absorb a very large area of her surface. The extensive table-lands of Castile and Estramadura cannot, from the excessive dryness of their climate, support a large population. The scarcity and uncertain amount of rainfall in these districts, which precludes the cultivation—without artificial irrigation—of anything but a scanty crop of grain every two or three years, must always prevent any very large increase of the population in these parts.

The irrigated districts of Spain, such as those of Valencia, Murcia, and Granada, probably support a denser population than is to be found in any other part of Europe.

There is undoubtedly room for improvement in this respect, more especially in the fertile valleys of many of the great rivers where artificial irrigation could be introduced; but any very great and marked increase in the population of Spain will probably be brought about by the increased development of her mines and manufactures.

Referring now to the general trade statistics of the country—

In 1862 the value of Exports was	£11,105,322
„ „ Imports „	16,793,127
Total - - -	<u>£27,898,449</u>

In that year the Imports exceeded the Exports by £5,687,805.

In 1882 the Exports were	£30,615,043
„ Imports „	32,666,676
Total - - -	<u>£63,281,719</u>

NOTE.—In this and all succeeding calculations 25 Pesetas are taken as being equal to £1.

The excess of imports over exports was in this year only £2,051,633.

Of the imports of 1882, £2,762,069 was for wheat alone. Spain does not generally import wheat, but the year 1882 was one of unusual drought in the South of Spain, the entire wheat crop having failed. Had it not been for this exceptional circumstance the exports would have exceeded the imports, and, whatever political economists may say, there can hardly be a doubt that, in the present case, the change in the proportion of exports to imports shows a great development in the resources of the country. The increase of exports and imports during the twenty years has been £35,383,270, or say about 250 per cent. If we take the ten years anterior to 1862, we find in 1852—

The Imports - - £7,531,671

The Exports - - 5,667,834

£13,199,505

Betwixt 1852 and 1862, therefore, the trade more than doubled itself, whilst in 1882 it was two and a half times that of 1862, and this, although for

seven years out of the twenty Spain was suffering such intestine commotions as fall to the lot of few nations.

The imports and exports of 1881 amounted to £52,858,840, the increase therefore in the year 1882 was £10,423,379 ; in this amount, however, is included the two and three quarter millions due to imported wheat, which can scarcely be looked upon as an improvement in the trade of the country.

If we take the average of the last five years we find this was £47,135,720, the increase therefore in 1882 over the average of the previous five years was £16,145,999, or say about 34 per cent.

Taking the mean of the last five years, the principal increase has been in exports, viz. :—

Wine	-	-	-	£5,840,068
Minerals	-	-	-	1,964,498
Oranges	-	-	-	752,085

The decrease in exports has been :—

Lead	-	-	-	£218,479
Oil	-	-	-	151,658
Flour	-	-	-	267,235

If we compare the years 1881 and 1882 we find that the increase in 1882 over 1881 has been in the principal articles as follows:—

IMPORTS.

Wheat	-	-	-	£2,762,069
Flour	-	-	-	254,553
Cotton	-	-	-	88,447
Cocoa	-	-	-	105,939
Coal and Coke	-	-	-	104,993
Iron and Tools	-	-	-	102,216
Timber	-	-	-	106,040
Woollen Textures	-	-	-	135,099
Silk Textures	-	-	-	160,182
Machinery	-	-	-	164,050

In the Exports the increase has been—

EXPORTS.

Wine	-	-	-	£2,800,460
Minerals	-	-	-	913,780
Cattle	-	-	-	164,703
Shoes	-	-	-	143,429

In the trade with Spain France takes the lead, England occupies the second place, and Germany

the third. In the year 1882 the amount of trade done by these three countries was as follows :—

	FRANCE.	ENGLAND.	GERMANY.
Imports -	£8,835,132	£6,834,055	£3,809,661
Exports -	12,391,267	9,407,659	283,865
Totals	<u>£21,226,399</u>	<u>£16,241,714</u>	<u>£3,593,526</u>

It appears therefore that of the total trade of the country one-third of the whole is done with France.

If we compare the amount of trade done by these three countries in 1882 as contrasted with that of 1862, we get the following results :—

FRANCE.		
	1862.	1882.
Exports ...	£2,534,143	£12,391,267
Imports ...	6,253,007	8,835,132
Totals ...	<u>£8,787,150</u>	<u>£21,226,399</u>

ENGLAND.		
Exports ...	£3,086,209	£9,407,659
Imports ...	4,198,424	6,834,055
Totals ..	<u>£7,284,633</u>	<u>£16,241,714</u>

GERMANY.			
Exports	...	£180,610	£288,865
Imports	...	16,616	3,809,661
		<hr/>	<hr/>
Totals	...	£147,226	£3,598,526
		<hr/>	<hr/>

It will be seen by this comparison that England has lost ground in 1882, being that year about five millions behind France, whilst in 1862 she was only about one and a half millions behind.

The notable difference is, however, in Germany, for whilst the imports from that country to Spain in 1862 only amounted to £16,616, in 1882 they reached the respectable figure of £3,809,661, the exports remaining approximately the same.

Relatively, therefore, as regards increase of trade Germany quite takes the lead.

In the statements given above as to the value of the exports and imports, it should be borne in mind that the official returns very much underestimate the amount. Spain is a country of high protective tariffs, and consequently smuggling in one form or other is an institution of the country, it is indeed perfected into a system and has its regular houses dedicated to the traffic.

We might without much risk of exaggeration increase the Government returns by 20 or 25 per cent.

Now, as regards the shipping in which these goods are carried. According to the official returns the total number of ships entered and cleared and their tonnage was as follows:—

1862.

Ships entered and cleared - 18,820

Registered tonnage - - 2,836,966

1882.

Ships entered and cleared - 39,490

Registered tonnage - - 18,310,608

Of the 39,490 ships entered and cleared in 1882, 16,823 sailed under the national flag and 22,667 under foreign flags.

The proportion of French and English ships and their tonnage was as follows:—

		Ships.	Tons.
English	...	8,653	5,074,389
French	...	5,874	2,333,069
		<u>14,527</u>	<u>7,407,458</u>

In this comparison, as was to be expected,

England has the advantage. It should be remarked here that in the entry of ships sailing under the Spanish national flag are included many ships owned in England. Many of the regular trading steamers between England and Spain, although owned in England, sail under the Spanish national flag, so as to avail themselves of the advantages offered to national ships.

In taking note also of the comparative tonnage of French and English ships, it should be borne in mind that a large portion of French trading is done by land.

The principal articles of trade between England, France, and Spain are as follows:—

ENGLAND.

EXPORTS FROM SPAIN.		IMPORTS.	
	Tons.		Tons.
Iron Ore -	2,775,832	Coal -	957,713
Copper Ore -	567,471	Coke -	105,202
Lead in bars -	69,932	Pig Iron -	41,737
Esparto -	40,119	Guano -	6,783
Copper -	22,624	Machinery	10,864
Common Wine	1,940,714 gallons		
Sherry -	3,698,838	do.	

FRANCE.

EXPORTS TO FRANCE.		IMPORTED FROM FRANCE.	
	Tons.		Tons.
Lead in bars -	44,407	Wheat -	68,841
Pig Iron - -	6,458	Flour .	12,542
Salt - -	14,497	Other Grain	23,290
Oranges - -	19,448	Guano -	8,881
Wine -	130,185,427 gals.	Machinery	4,501

If we except flour and grain, which, as has been before stated, was quite an exceptional article of importation in 1882, due to the failure in that year of the crops in the South of Spain, the imports from France are spread over a large number of various articles, there is no salient article of import. In the exports the principal article is the wine. This is almost entirely red wine, which goes to Bordeaux to be made into claret, and be re-exported thence to confiding customers in England.

It seems strange that Spain cannot perform this transformation in her own country, and retain the profit thereon, but there is much in a name, and, unless baptized under the name of Bordeaux, it is probable that the average English customer would not consider it a genuine article.

One or two considerations suggest themselves on seeing the figures given above.

One is, the steady increase in the trade of the country, in spite of the disadvantageous political circumstances under which she has laboured.

Another is, that contrary to her usual custom, England is losing her trade with Spain instead of augmenting it. The third is the extraordinary advance that is being made by Germany.

If this latter nation continues to increase her trade with Spain during the next twenty years in anything like the same proportion as she has done in the last twenty, she bids fair to oust both France and England from the field, or at all events to become a most powerful rival.

CHAPTER III.

RAILWAYS.

SOME people would have us to believe that the Revolution of 1868 was caused by the alleged feud said to exist between the Duke of Montpensier and his sister-in-law Queen Isabella, and by the intrigues of the former to obtain the Crown for himself in right of his wife.

There is no doubt that the Revolution of 1868 had the connivance if not the open assistance of the Duke, and that he hoped to catch some fish in the troubled waters which he assisted in making; but to give this as a reason for the revolution is to take but a very short-sighted view of matters, and to entirely misread the signs of the times. Nowadays the family feuds of kings and princes, or their relationships and marriages, stand for little or nothing in the great movement of nations, not excepting even the autocratic empire of Russia, and we must look farther below the surface if we wish to discover the real forces at work. We must

take into account the tendencies and thoughts of the people whom they pretend to govern.

The Revolution of 1868 in Spain was the inevitable outcome of the progress the nation had been making, and the consequent want of harmony between the old Court party and the progressive tendencies of a people that were slowly awaking from the slumber of centuries. A dynasty that had been nurtured like that of Spain in the old theory of the divine right of kings could not, although a liberal and national movement had placed it on the throne, easily shake off the traditions of ages. It is difficult for a new truth to penetrate the warm and perfumed atmosphere of a Court, more especially when the head of such a Court is a woman.

Too many influences are at work to prevent unwelcome truths from disturbing the serene atmosphere that surrounds the Throne; too many persons are individually interested in having things remain as they are.

Thus it happens that the nation rolls on and new ideas gain sway, whilst the power that should direct and govern them is sleeping in serene

unconsciousness of the elements that are collecting around it, until at last the storm bursts, to the amazement and horror of the short-sighted guardians of the Throne.

We should not be far wrong if we stated that the Revolution of 1868 was the direct and immediate consequence of the construction of railways, and of the facilities thus afforded to the Spanish people to travel and mix with other nations and people, and which brought numbers of the more active and intelligent members of other countries into the Peninsula itself. Spain, the proud exclusive Spain, that for ages had replied to all attempts to move her with the cry, "Santiago y Cierre España," had at last caught the infection of progress that was hurrying on the other nations of Europe. She had opened her mountain passes to the locomotive.

Amongst those magnificently stern gorges which shut her in from the rest of Europe, the echoes of the horn of Roland had given place to the shrill whistle of the steam-engine.

From 1848 to 1858 some 500 miles of railway had been constructed; from 1858 to 1868 some

2,800 miles were opened, and these 2,800 miles of railway brought the Revolution of 1868, and caused the upheaval which cracked the hard crust that time and custom had formed over the Spanish nation.

Whether this be so or not. Whether we suppose the progress of Spain during the last twenty years to be due to her railways, or, on the other hand, consider that the railways have only been the symbol of an activity which has been called into play by other causes, there can be no doubt that the progress of the country is largely identified with the extension of the railway system, and it will be worth our while therefore to study it a little more closely.

The first line was opened in 1848, and was 17 miles in length. During the two following years no further lines were constructed; but in 1851 some other lines were opened, and the increase was steady, though not great, up to 1858, at which date 527 miles were open to the public.

The additional lines opened from 1858 to 1868 were 2,805 miles, and this may be said to have been the most active period of construction.

During the troublous times that succeeded to the Revolution of 1868, little was done towards the extension of railways, and it was not until 1875 that capitalists were again able to turn their attention to the subject.

Thus, in the second decade from 1868 to 1878, only 818 fresh miles were opened. The length opened from 1878 to 1883 has been 715 miles. The total length of lines opened to traffic in 1st January, 1883, was 4,865 miles, and the total number of miles in construction at that date was 1,277. Whilst the new schemes, of which the plans had been approved by Government, but which had not yet been commenced, embraced 1,612 miles.

In addition to this, during the year 1882 Government had authorised the studies of 37 new lines, the length of which was of course not known. The country would appear therefore to have again entered into a period of constructive activity.

Until quite recently almost the whole of the Spanish railways have been constructed with French capital and under French direction. English enterprise, which had taken such a leading

part in railway work in other parts of the world has been conspicuous in Spain by its absence.

The causes of this abstinence were twofold. In the first place the closing of the English Stock Exchange to Spanish enterprises, in consequence of the vexed question of the famous coupons, acted as an effectual bar to the application of English capital to such work; and secondly, the form of aid given by the State was not one that suited the English capitalists. John Bull has peculiar ideas as to his position as the world's banker, and he considers that all countries must accept his dictum as to the proper way of doing things. Now, as regards railways, he had formed an opinion that the proper form of State aid should be by a guaranteed interest, whilst the Spanish Government had come to the conclusion that as regards themselves this was not a convenient form.

The Spanish ministers argued that it would be impossible for them to find out when a line was paying more than the guaranteed interest, that the system lent itself to abuses which they could not check, and that, as a matter of fact, any guarantee given by them would be perpetual, as the com-

panies would so arrange their accounts as to show invariably an interest smaller than that guaranteed; they considered it preferable, therefore, to pay a lump sum down by way of subvention, and to have done, once for all, with the business. There is no doubt that from their own point of view they were right; the system, however, was not according to John Bull's ideas, and as one was as proud and self-opinionated as the other, neither would give way; the result was that no English capital went to Spain for railway purposes.

John Bull considered that he was punishing Spain by buttoning up his pockets, but as a matter of fact he punished himself also. The capital he refused to give was found in France and Belgium, and to France and Belgium went all the orders for railway material.

If the money that we so candidly lent to the swarm of defaulting South American Republics had been properly invested in Spanish railways, a good deal of trouble might probably have been spared to the unfortunate investors. The retirement of England, however, from the competition quite suited the views of the French capitalists,

and they were not at all anxious to see any alterations made in the way of business.

During the early times many of the railways received subventions amounting to one-half of the estimated cost of the line, payment being made in a special form of Government bonds known as Railway Bonds. These bonds have now been called in and converted into Four per Cent. Stock, and all subventions are now paid in cash. By the existing law subventions cannot exceed 25 per cent. of the estimated cost, and in no case can this exceed £3,840 per mile, or say 60,000 francs per kilometre.

The total amount of subventions actually paid by Government up to date, 31st December, 1882, was £24,529,148.

This is a goodly sum, and we may safely conclude, looking at the present position of Spanish railways, that the Government would have saved some of this had they adopted the principle of guaranteed interest.

Could they have been quite sure of the honesty of the companies making the lines, and of that of their own inspectors of accounts, this might have

been so, but the Spanish ministers probably knew their own business best, and wisely concluded that a fixed liability, though a large one, was better than one of which they could not foresee the amount.

We will now briefly glance at the present position of some of the principal railways, taking our information from the published annual reports of the companies.

Of the 4,865 miles of line opened in 31st December, 1882, 2,946 are held by three large companies, the remaining 1,919 miles being held by smaller ones.

These three companies, who between them hold more than 60 per cent. of the whole network of lines constructed, are—

1st. The Northern Railway, which holds the main line from Bayonne to Madrid, and the several lines to Bilbao, Pamplona, &c., branching off from it.

2nd. The Madrid, Zaragoza, and Alicante Company which holds the main line from Madrid to Seville, that from Madrid to Portugal, those to Alicante and Valencia on

the Mediterranean seaboard, that from Madrid to Zaragoza, and various others; their network embraces almost all the central part of Spain south of Madrid, with the exception of Andalucia.

3rd. The Andaluces Company, which holds the line from Seville to Cadiz, and almost all the lines comprised in the district of Andalucia proper.

The relative lengths of line held by these three companies are—

			Miles.
Northern Company	1,092
Madrid, Zaragoza, and Alicante...			1,394
Andaluces Company	460
Total	<u>2,946</u>

An examination of the financial position and prospects of these three companies, and of one or two of the other smaller ones, will give us a pretty fair idea of the state of the railways in Spain.

Northern Railway Company—length, 1,092 miles. The total capital of this company is £26,769,868, of which £15,972,480 are obligations, and £4,147,888 was subvention.

The gross products for 1882 were £2,819,686

The working expenses - 952,886

Net produce - £1,866,800

which left, after payment of interest on, and amortization of obligations, &c., a disposable balance of £406,916.

Out of this balance a dividend of 6 per cent. was paid on the shares, absorbing £399,000, and £7,916 was carried to reserve, which amounted at that date to £81,428.

The average gross earnings per mile per year was £2,120. The average working expenses 41·07 per cent. of the gross receipts.

The obligations of the company are of 500 francs nominal value, with interest at 3 per cent., and they are amortizable at par by annual drawings over the unexpired term of the concession at the time they were issued.

The first series were issued at 250 francs, the last at 305 francs; their present value in the market is 325 francs. The present value of the shares is 505 francs.

The average cost per mile of line is £24,902.

Madrid, Zaragoza, and Alicante line—length, 1,394 miles. Total capital, £24,281,887, of which £14,598,600 is in obligations, and £2,204,887 was subvention.

The gross produce in 1882 was £2,079,961

Working expenses - 884,913

£1,245,048

The total available balance, after payment of interest on obligations, &c., was £331,193. Out of this a dividend of 22 francs per share of 500 francs was declared for the year 1882, equivalent to 4·4 per cent. The average gross earnings per mile were £1,489. The working expenses, including repairs and renewals, 40·14 per cent. of the gross receipts.

The obligations of this company are similar to those of the Northern Railway. They were issued at 250 francs, and are at present quoted at 322 francs.

The cost per mile has been £17,418.

Andaluces Company—length, 460 miles.

The capital of this company is £4,633,392, of which £3,328,784 is in obligations.

The gross earnings in 1882 were £416,780

The working expenses - 195,501

Net produce - - £221,279

The disposable surplus, after payment of charges, was £63,273. Out of this a dividend of 5 per cent. was distributed on the share capital, absorbing £60,000, and the balance, £3,273, carried to reserve.

The average gross earnings per mile were £906, and the average working expenses 46·90 per cent. of the gross earnings. The obligations of this company are of various kinds. The last issue were of the nominal value of 500 francs, bearing 3 per cent. interest, and amortizable at par over 79 years. They were issued at 315 francs, and at this price do not quite give 5 per cent. interest.

It is not possible to ascertain the actual cost per mile of this company's lines, as the principal ones were made by private persons and sold to the company ; the amount of subvention therefore received by the constructors does not appear in the price paid by the company, and their capital therefore gives no clue to the actual cost of the

line. In the year 1881 they paid a dividend of 6 per cent., and have lately declared the same dividend in their last issued report, so that we may consider this their normal rate of interest, the lower rate of 1882 being due to the exceptional circumstances before mentioned.

Following the above three companies the next in importance is the North-Western, whose lines are destined to play a most important part in the future development of the north-west corner of Spain.

These lines start at the ancient capital of Leon, where they form a junction with the Leon and Palencia line, which unites with the Northern Company's line at Venta de Baños. From Leon the main line goes to Lugo and Coruña, with a branch from Monforte to Orense and Vigo. Another main branch goes from Leon to Gijon, the principal seaport town of the Asturias, crossing the Pyrenees through the pass known as the Puerto de Pajares at a height of 4,470 feet above the sea-level. The works on this line are stupendous, the descent from the pass down to the sea is a constant succession of tunnels and viaducts of a most expensive character, and the cost of the

whole line has been very high. It opens up, however, a most important mining district where coal and iron exist in juxtaposition, and will doubtless soon pay a fair interest on its capital.

The works on the main portion of the line from Leon to Coruña are also in many parts very heavy, the line runs for a considerable distance through a wild mountainous district, tapping many important towns in its course.

These lines were opened by the late King in person about two years ago, and we cannot therefore include them in our retrospect. Their total length is 459 miles. The company constructing them is French, and the shares and bonds have been placed in France. They enjoyed a good subvention from Government. A line is now under consideration which will leave the main line at Lugo and terminate at Rivadeo, an excellent port at the mouth of the River Eo, which forms the boundary betwixt Asturias and Galicia.

Another line, the concession of which has been granted with a full subvention, will leave the main line at Betanzos shortly before reaching Coruña, and run round the eastern side of the bay to the

important Government arsenal of Ferrol; other subsidiary lines in connection with the main lines are now under consideration.

Quite recently negotiations have been opened up betwixt the Northern and North-Western Companies, which have led to the purchase of the latter company's line by the former. The Northern Company now therefore holds the monopoly of all the lines north of Madrid, with the exception of that from Madrid to Zaragoza, and they are now endeavouring to purchase this, so as by this means to complete their network of lines.

After the North-Western, the two companies next in importance are the Valencia, Almansa, and Tarragona Railway Company, and the Barcelona, Tarragona, and France Company. The former forms a junction with the Madrid, Zaragoza, and Alicante Company's line at Almansa, famous, or rather infamous, in our military annals as being the place where we were thoroughly beaten in 1707 by the French under the Duke of Berwick, natural son of James II. From Almansa the line runs down to Valencia, and from thence on through Castellon to Tarragona. From Jativa to Valencia,

and onwards to beyond Castellon, the railway runs through the famous irrigated Huerta of Valencia, a wonder of the world for fertility and intense cultivation.

The Barcelona line joins the latter at Tarragona, and goes from thence to Barcelona and along the coast to France, forming a junction with the French lines at the frontier.

According to the published reports for the year 1882, the situation of these two companies was then as follows :—

Valencia, Almanza, and Tarragona.

Total length, 243 miles.

Capital—Shares	-	-	-	-	£950,000
Subvention	-	-	-	-	1,429,838
Debentures	-	-	-	-	1,872,756
Total					<u>£4,252,594</u>

Gross returns for the year £394,668, equal to £1,606 per mile per year.

Working expenses, 42·26 per cent. of gross receipts.

The net returns being £223,755, out of which, after providing for interest and sinking fund on

the debentures, a dividend of 10 per cent. was given to the shareholders. The total cost of the line is set down at £4,107,188, equal to £16,720 per mile.

Barcelona, Tarragona, and France.

Total length, 215 miles.

Gross returns	-	-	-	-	£547,578
Working expenses	-	-	-	-	237,662
					<hr/>
Net return	-	-	-	-	£309,916
Service of obligations	-	-	-	-	159,079
					<hr/>
Net return available for dividend on shares					<u>£150,837</u>

The capital of the Company is formed as follows :—

Shares	-	-	-	£2,125,525
Obligations	-	-	-	3,308,812
Subvention	-	-	-	247,204
				<hr/>
Total	-	-	-	<u>£5,681,541</u>

The sum available for dividend, therefore, was sufficient to pay 7 per cent. on the share capital.

The working expenses were 43·40 per cent. of the gross receipts, which latter corresponded to

£2,524 per mile per year. The cost of the line is set down at £5,616,802, equal to £25,899 per mile.

Both these companies are national, but a great part of the funds were found in France.

In the case of the Barcelona Company, however, a large portion of the bonds were placed in Barcelona itself.

Reviewing these five companies, we find that they paid respectively 6 per cent., 4·4 per cent., 6 per cent., 10 per cent., and 7 per cent. on their share capital, the capital cost per mile of the two first companies being very large—£25,000 and £26,000 per mile nearly.

It should be borne in mind, also, that at least two-thirds of their capital is in bonds, which receive 6 per cent., and are amortised at par, which is double their issue price.

At the present market price of these bonds they do not quite give 5 per cent., which shows the good estimation in which they are held in France; in fact the bonds of Spanish railways have always been a favourite investment in France, and there is scarcely a waiter in a *café* who has not saved up money to buy one or two of them.

The form under which they were issued was an enticing one to the French public; they are nominally of the value of 500 francs, with 3 per cent. interest, issued at 250 francs, and repayable at par by annual drawings over the term of the concession, usually 99 years; thus a kind of gambling interest is given in the bond, which may be drawn any year and paid off at par.

Most of the Spanish lines are granted for a term of 99 years, after which they revert to the Government.

During the revolutionary period of 1868 some lines were granted in perpetuity; but this is not done now, the old limit of 99 years having been returned to.

The three large companies are nominally Spanish, being constituted under the Spanish Law of Anonymous Companies, and having their ostensible seat in Madrid; but they are in reality managed by a Board in Paris, where the capital really is. The Spanish law, however, is a very convenient one to work under, and there are many advantages obtained by adopting it.

The amount of capital that has been raised in

France for the construction of Spanish railways is very large, as will be seen from the foregoing remarks. The total capital of the three principal companies is £55,684,647, and we may safely put down the capital of the remaining lines constructed and in construction at £40,000,000 more. From this must be deducted the subventions paid by the Government (nearly £25,000,000), leaving in round numbers a sum of £70,000,000, almost all of which has been supplied by France.

Within the last few years the Spaniards have begun to construct railways with their own capital, but the Spanish public have not yet acquired sufficient confidence in their Government or themselves to allow them to invest their money freely in industrial enterprises.

Apart from the large centres of population, the old custom still continues of burying their gold under the hearthstone.

An approximately accurate estimate of the large amount of gold thus withdrawn from circulation would astonish those who do not know the country and judge its wealth by the outward aspect of its poverty-stricken villages.

Should any government ever be established of sufficient stability as to gain the confidence of the people and induce them to invest their money in industrial enterprises, no foreign capital will then be required either for her railways or other public works.

One thing strikes us in the reports of the companies given above, and that is the low rate of their working expenses. The average working expenses of the two great companies is only 40·60 per cent. of their gross receipts, whilst, even if we include the Andaluces Company, whose rate is much higher, as they have not got out of the period of construction, the average of the three companies is only 42·70 per cent.

The explanation of this is to be found in the system of management. The convenience of the public is sacrificed to the attainment of a low rate of working expenses.

The trains are run at slow speed; with the exception of the International train on the Northern Railway, the rate of speed does not exceed 25 miles per hour.

The closest economy is practised as regards the

dead load to be conveyed. The absolute minimum of passenger accommodation is provided in the trains, one carriage being made to do the duty of three in England; passengers are packed in like herrings in a tub, and only when there is absolutely no room to insert one more passenger will the officials put on another carriage. All the mail trains for the provinces leave Madrid at night, and to reach any of the principal towns such as Seville, Murcia, Valencia, Alicante, &c., from 12 to 18 hours must be spent in the train. The discomfort of such a night in a hot climate is more easy to imagine than describe, and only a Spaniard, who is the most long-suffering creature on the globe, would submit to it. To an Englishman accustomed to the rapid and comfortable travelling of his own railways the situation is intolerable, but, as a result, the proportion of dead to paying load is more nearly equal than in any other country. The same system prevails in the goods traffic—the convenience of the client is made subservient to the supposed interests of the company, and goods are kept back or sent forward entirely as it may suit the ideas of the traffic manager. As compared

with English lines the situations are entirely reversed: instead of regarding their passengers and clients as people to be humoured and fostered, the Spanish railway officials seem to consider that they confer a favour on the passengers by taking their money, and that any complaints as to the mode of fulfilment of their part of the contract are most unreasonable, and that the maker should be snubbed, as he invariably is.

It is probable that in England condescension to their clients is carried too far, having regard to the interests of the shareholders; but in Spain the companies certainly err from the other extreme. A more liberal treatment of their clients, whilst it might somewhat increase their working expenses, would without doubt increase the gross receipts at a rate out of all proportion to the increase of working expenses.

The Spanish railways are certainly not producing anything like what they would produce under a more commercial system of management. True it is that the country is only now awaking to a sense of the immense value to it of the new system of locomotion, but even so it is probable

that the dividends might be increased quite two per cent. per annum, under a more judicious system of management; this is more particularly true of the southern lines, and more especially so of the Andaluz Company, whose system seems devised on purpose to crush the growth of traffic.

As the Spanish railways have been constructed almost entirely with French capital, it was only natural to expect that the system and the *employés* should be French. The system is in fact an exaggerated copy of the French one: red tape and routine reign supreme; the stations swarm with officials revelling in a luxuriance of gold bands and stripes, and full of that intolerable pomposity which is so distinctive of the French "Jack in office."

Absurd and foolish restrictions meet the intending client at every turn, and the only wonder is how the traffic developed at all in the face of such a system.

On some of the lines Spanish officials are gradually replacing the French ones, and the sooner this is done the better for the country and for the lines themselves.

The Spaniard is fully as intelligent, if not more so than the Frenchman: he is free from that absurd pomposity and intolerance that distinguishes the French official, and is much more courteous and obliging; his head is not so readily turned by the gold lace on his cap, and his innate gentlemanly feeling, a faculty so wanting in the other, renders him a much more pleasant person to deal with. There is a good future in store for Spanish railways if they are sensibly and properly managed, and care is taken to nurse and foster the traffic instead of suppressing or alienating it. As it is, some of the lines are quite blocked, their rolling stock being insufficient to carry the merchandise that is sent them; and if this is the case under their present management, there is no doubt that under an improved system a large development of traffic would arise.

CHAPTER IV.

ROADS, TELEGRAPHS, MINES, PORTS, &c.

THE construction of all the principal high roads in Spain is done at the cost of and under the superintendence of the Government. The corps of engineers, which is a department of the Ministry of Public Works, is framed on the model of that of France, the course of study prescribed to those desirous of entering the corps is very severe, and the examinations are very strict. On passing, the candidate receives his appointment as assistant engineer from the minister, and his progress from this date is regulated by seniority.

Each province is under the charge of an engineer-in-chief and a certain number of assistants, whilst special appointments are made for the [superintendence of the railways, harbours, and other public works of importance.

The principal occupation of the engineer-in-chief of the province, and of his assistants, is the construction and repairs of the high roads, and any

other works of minor importance that are being constructed with Government funds; but he has also under his charge the inspection of all works which, although executed by private persons at their own expense, are being constructed under concessions or authorisations from the Government.

All concessions are based on a project which must have been submitted to the Ministry of Public Works, and have received its approval, and the execution of the works is subject to the inspection of the engineer-in-chief of the province where the work lies, and, theoretically, no deviation is allowed to be made from the approved plans, unless with the consent of the Minister at Madrid.

The system is extremely paternal, and exceedingly troublesome and annoying; attempts have been made, more than once—notably after the Revolution of 1868—to grant more freedom to individual initiative, but the vested interests of the engineering body are too strong, and by degrees all the restrictions swept away in 1868 have been restored.

The railways are under the charge of special bodies of engineers appointed for this purpose, the

country being mapped out into a certain number of so-called divisions, each of which is under the charge of an engineer-in-chief, having under his orders a large staff of assistants.

The roads in each province are, as we have said, under the immediate charge of the engineer-in-chief of the province. Many parts of Spain are as yet in a very backward condition as regards highways, but much has been done during the last twenty years to remedy this, as the following table will show :—

	1862	1882.
	Kilometres.	
Roads constructed — 1st class -	9,436	- 7,286
„ in construction „ „ -	1,507	- 174
„ constructed — 2nd „ -	1,941	- 7,761
„ in construction „ „ -	1,483	- 1,193
„ constructed — 3rd „ -	901	- 8,463
„ in construction „ „ -	722	- 3,504
Provincial roads constructed -	—	- 4,367
„ in construction —	—	- 938
Townland roads constructed -	—	- 17,318
„ in construction —	—	- 1,345

The three first class are those which are con-

structed and cared for by the State. The system of construction is the same in each class, the only difference being in the width of the road. They are all well built and carefully preserved, and no better roads are to be found in any part of Europe. The difference shown in the table as to the first-class roads constructed, from which it would appear that a greater length was constructed in 1862 than in 1882, arises from the fact that many of the roads entered as first-class roads in 1862 are entered in 1882 as in the next lowest class. The first-class roads are those which run from Madrid to the principal capitals of provinces. Resuming, we have—

	1862.	1882.
	Kilometres.	
State roads constructed	- 12,278	- 23,510
„ „ in construction	- 3,712	- 4,871
Total kilometres	- <u>15,990</u>	- <u>28,381</u>

Total of all classes completed in 1882:—

State high roads	- 23,510
Provincial roads	- 4,367
Townland roads	- 17,318
Total	- <u>45,195 kilometres.</u>

State roads	-	-	4,871
Provincial roads		-	938
Townland	-	-	1,845

7,154 kilometres.

If we turn now to mines we shall find the same steady progress being made. The following tables show the past and present state of mining enterprise :—

	1862.	1882.
Total number of mines in work	1,341	2,841
Area of the same in hectares (= 2½ acres)	22,899	259,547
Number of workmen employed	31,800	76,130
Number of engines at work -	52	481
Horse power of ditto -	1,342	11,387

The amount of minerals raised from these mines has been—

				1862.	1882.
				Tons.	Tons.
Iron Ore	-	-	-	213,192	4,726,293
Lead Ore	-	-	-	277,845	341,818
Silver-Lead Ore	-	-	-	—	22,425

					1862. Tons.	1882. Tons.
Silver Ore	-	-	-	-	2,523	18,349
Gold Ore	-	-	-	-	—	360
Copper Ore	-	-	-	-	227,719	1,720,853
Argentiferous Copper	-	-	-	-	—	50
Tin	-	-	-	-	101	—
Zinc Ore	-	-	-	-	41,104	57,353
Quicksilver	-	-	-	-	16,115	27,037
Antimony	-	-	-	-	84 $\frac{3}{4}$	30
Cobalt	-	-	-	-	2 $\frac{1}{2}$	40
Manganese	-	-	-	-	6,459	5,668
Common Salt	-	-	-	-	—	112,582
Sulphate of Soda	-	-	-	-	5,021	13,525
Sulphate of Baryta	-	-	-	-	—	800
Phosphate of Lime	-	-	-	-	—	21,070
Alum	-	-	-	-	8,142	8,180
Sulphur	-	-	-	-	12,639	40,037
Coal	-	-	-	-	360,245	1,165,517
Lignite	-	-	-	-	28,696	30,738
Asphalte	-	-	-	-	1,116	493

Say 8,313,218 tons of minerals of all classes raised in 1882 against 1,201,054 tons raised in 1862.

The increase in the output of iron and copper is due in a large degree to foreign enterprise. Thus almost all the increase in iron ore is due to Belgium, French, German, and English companies, who have established themselves in Bilbao, built the railway for the conduction of the ore, and provided the ships to carry it away. A great impetus was given to these famous deposits by the introduction of Bessemer steel, the Bilbao ore being specially suited to the production of this material in consequence of its freedom from sulphur and phosphoric acid.

In the same manner the large increase in the production of copper ore is principally due to the English and French Companies established in Huelva, such as the Rio Tinto, Tharsis, and Buitron Companies. The wonderful deposits of ore possessed by the first-named Company constitute it, perhaps, one of the most productive mines of the world, as the price paid for the mine to the Government, whose property it was, is probably the highest ever paid for any mine—viz., £3,800,000. The production of this mine is only limited by the demand in the market for the ore. The develop-

ment of the coal mining owes its principal rise to the various railway companies, who work the mines for their own benefit. English coal still competes with native coal in the principal seaports.

With the exception of iron and copper, foreign enterprise cannot be said to have assisted much in the development of Spanish mining enterprise, although the lead mines in the Linares district owe, no doubt, a good deal to English enterprise.

The rich silver mines of the Sierra Almagrera have been, and are, almost completely in native hands, and very large fortunes have been gained in them.

There is still an immense field open in Spain for mining enterprises, many and rich deposits are still unworked, and must continue to be so until easy modes of transport are provided for the products.

New lines are constantly being constructed to some of these districts, such as the line from Zafra to Huelva, which will open up a very rich mineral district at present unworkable, that from Aguilas to Lorca and the Valley of the Almanzora, which will provide an exit for the sulphur of Lorca, and the iron, marble, steatite, cobalt, and other

minerals of the Sierras de Aguilas, Almagrera, and Filabres, not to mention many other lines now in course of construction or projected.

Now as regards the smelting or reducing works. The following table gives their relative state in the two periods before referred to :—

	1862.	1882.
Smelting works in operation -	353	168
Number of operatives employed -	10,875	14,136
Engines employed (steam and water)	534	344
Horse power of ditto -	2,673	9,403

What is chiefly notable in this table is the increase in the number of workmen and in the amount of horse power employed coincident with a diminution in the number of works and engines.

This seems to point to a great improvement in the class of works.

The products obtained from these works were as follows :—

	1862.	1882.
	Tons.	Tons.
Cast iron -	48,106	120,064
Wrought iron -	41,068	65,222
Steel -	162	554

			1862.		1882.
			Tons.		Tons.
Lead	-	-	62,767	-	88,339
Silver	-	-	13 $\frac{3}{4}$	-	46 $\frac{9}{10}$
Copper	-	-	2,889	-	22,849
Tin	-	-	5	-	—
Zinc	-	-	1,888	-	7,310
Quicksilver	-	-	769	-	1,705
Soda	-	-	2,805	-	900
Alum	-	-	225	-	327
Sulphur	-	-	2,444	-	7,207
Asphalte	-	-	224	-	300
Antimony	-	-	—	-	8
Hydraulic cement	-	-	—	-	26,941

Since the year 1882 some considerable iron-works have been established at Bilbao by Spanish firms for the manufacture of steel rails, and some of the railways now in construction are obtaining their rails from this source. Considering the high duty payable on rails entering Spain—amounting to £3. 4s. per ton for English make—there should be a good field for such works. There are splendid deposits of iron ore in various parts of Spain, and there seems no reason why the country

should not make itself independent of foreign manufactured iron.

It seems absurd that England should carry away from Spain annually some four million tons of ore, and be able to return the manufactured product at a price that can, after payment of a duty of 50 per cent., leave them a profit on its production.

If peace prevails in Spain, the next few years will probably show a large development of manufactured products. Signs are not wanting of such an increase.

A Catalan company has now just completed at a considerable cost some important sulphur reducing works at the rich sulphur mines near Lorca, and expects confidently to produce in a short time thirty thousand tons of sulphur per year, and in various parts of the country similar classes of works are being commenced with native capital.

Let us now see what has been done in the way of ports and harbours.

Spain is admirably situated for a manufacturing country; she has a fine seaboard to the north, with several magnificent natural harbours on this portion of the Atlantic. To the south she has

Huelva, Seville, and Cadiz, also on the Atlantic ; whilst on the Mediterranean she has the ports of Malaga, Calahonda, Almeria, Aguilas, Cartagena, Alicante, Valencia, and Barcelona, not to mention other smaller places.

Some of these ports are fine natural harbours, requiring very little assistance from the hand of man ; others are more dependent on artificial means. Very little attention was paid to the improvement of harbours until within the last twenty years, but during that time a good deal of money has been judiciously spent on these works.

The little land-locked harbour of Pasages, near San Sebastian, on the Bay of Biscay, is rapidly being converted into an active shipping port. Quay-walls are being built, warehouses erected, and proper appliances are being provided. Farther along the coast westwards, the port of Bilbao, which is by nature a most unpromising one, has (thanks to the great demand that has sprung up for iron ore) been much improved. A harbour board has been created, extensive works have been undertaken, and as a first result the water on the bar has been deepened by six feet, and the mean

tonnage of the ships using the port has been increased from 772 tons in 1881 to 1,048 tons in 1883. The shipments of ore from this port have increased from 425,000 tons in 1872 to 3,737,176 tons in 1882. Of this amount 2,450,831 tons were shipped to England and Scotland, in return for which we sent them 102,543 tons of coal and coke.

Still following westwards, the well-known port of Santander remains in much the same state in which it was twenty years ago, but at Gijon a good deal of money has been spent in the endeavour to convert this unpromising place into the port for the Asturias. The fine natural ports of Rivadeo, Vivero, Carril, or Arosa, Pontevedra, and Vigo are still, more or less, in the position nature left them, as is also Coruña. It is probable that the completion of the railway lines just lately opened to Gijon, Coruña, and Vigo will lead to a large development of traffic from these places, and a consequent improvement of the conditions of their ports.

Going along to the south coast, the first Spanish port we come to after passing Lisbon is that of

Huelva. The increase of this place during the last twenty years has been very great, principally owing to the establishment of the Tharsis, Buitron, and Rio Tinto Mining Companies. These three Companies have built railways from the port up to their mines, and the Tharsis and Rio Tinto have built also splendid iron piers, at which vessels of 2,000 tons can load at all times. In 1876 the railway from Seville to Huelva was constructed by an English firm, and the same firm are now constructing the line from Huelva to Zafra, traversing one of the richest mining districts of Spain, and effecting a junction with the line from Estremadura to Madrid.

The town itself has increased from 7,000 to 17,000 inhabitants; a magnificent hotel—too magnificent perhaps for the place—has been built; waterworks are now being constructed, and the place promises to become in a few years one of the most thriving towns of the South of Spain.

The neighbouring port of Seville has also been much improved; a fine line of quays has been constructed; the river has been deepened and straightened, so that steamers of 1,200 tons now

come up and unload at the city, and the amount of tonnage using the port is increasing at a rapid rate.

Cadiz is waning — its glories have departed ; Seville and Huelva are gradually destroying it.

The port of Malaga, though not of great extent, is an important one on account of the districts it serves. A scheme was prepared many years ago for cleansing and improving it, and the works were let by public auction to a contractor ; but for reasons not necessary to explain here the work has dragged on and has never been finished, lawsuits have supervened, and, for the present, matters appear to be at a deadlock.

The small but excellent natural port of Calahonda, near Motril, destined some day or other to be the port of outlet for Granada and its rich and populous valley, is still in the state that nature left it. A project has been prepared for improving it and for the construction of piers, &c., which has received the approbation of Government, but as yet no works have been commenced. ~

A concession has also been granted by the Government for the construction of a railway from the city of Granada to this port.

Following the coast eastwards we come to Almeria, capital of the province of the same name. This rather exposed bay has been converted into a port by the construction of a breakwater and quays. The shipping from this port is limited to the products derived from the immediate neighbourhood.

Almeria is one of the very few capital cities in Spain that is not yet connected on to the railway system, and loud and frequent have been the complaints of her sons at this neglect of the powers that be.

In this rich and populous province, famous for its silver mines, and favoured in its lower or coast region with a climate that permits the growth of the most varied crops, the whistle of the locomotive has not yet been heard. If, however, they are late in the day in receiving the benefits of railways, they are likely soon to be well provided. The new line now in course of construction from Murcia to Granada, which will be the link between the railway systems of Andalusia and the east coast, crosses for a considerable distance through the northern parts of the province and through the ancient cities of Baza and Guadix, so famous in

the Moorish and Christian wars. Another line from Almeria to Linares crossing this latter one at Guadix will place Almeria in direct communication with Madrid ; whilst another line from Almeria along the coast to Lorca and Calasparra, on the Madrid, Zaragoza, and Alicante line, will place her in direct communication with Catalonia and all the eastern coast of Spain. All these three lines have been granted a subvention by way of free gift of an amount of money equal to 25 per cent. of their estimated cost. On their completion there is no doubt that the port of Almeria will develop rapidly.

Leaving Almeria, the excellent little port of Aguilas comes next in order. Within the last few years a breakwater has been constructed across the mouth of the bay, and some excellent quay-walls constructed. These works have been executed by a private company, and are now nearly completed. The construction of the railway from Aguilas to Lorca, now in hand, will connect this port with the new railway from Murcia to Granada, and thus with the entire network of Spanish lines ; and there is little doubt that the enterprising con-

structors of the port will then reap a rich harvest from their investment.

The well-known port and arsenal of Carthagena has received, as was natural, a good deal of attention from Government, a magnificent breakwater and fine quay-walls have been constructed, and are now in use. The fact of this place being a Government arsenal rather militates against its success as a mercantile port, and will probably continue to do so.

It would take up too much time to describe the works that have been executed at the various ports along the east coast, such as Alicante, Valencia, Viñaroz, Tarragona, Barcelona, &c. Very considerable sums of money have been spent on these works, and with very commendable success. The latter place has been really transformed within the last fifteen years. Magnificent quay-walls have been built, provided with all the latest appliances, in the shape of hydraulic cranes, sheds, &c., &c., the old city walls have been levelled, and their place supplied by wide esplanades, and the whole presents an aspect of busy and prosperous industry most cheering to see. The total amount of money

spent upon these works up to June 30th of this year has been in round numbers £850,000, of which £160,000 has been raised by bonds issued and subscribed for in Barcelona, the remainder has been raised from the dues levied on vessels entering the port.

The annual income of the Port Commission from this head is now in round numbers £50,000.

It will be seen from the foregoing that a good deal of attention has been bestowed on all the ports of the southern and eastern coasts of Spain, whilst all the magnificent series of harbours, from Gijon round the coasts of Asturias and Galicia, have been neglected. It is, however, not difficult to understand why this has been so. The whole of the north-western portion of Spain has, until within the last two years, been entirely cut off from the rest of Spain for lack of railway communication. If we except the short little piece of line from Santiago to Carril, none of these ports had any railway communication with the interior of the country; many of them had not even roads. The development of trade under these circumstances was impossible.

The opening of the North-Western Company's lines two years ago has now placed Gijon, Coruña, and Vigo in direct communication by rail with all the interior of the country. Other lines, subsidiary to these, are now in course of study or construction, and we may safely predict that before another ten years have elapsed the throbs of active mercantile life will be felt in these so long neglected corners of Spain, and the clink of the hammer will tell of the construction of the needful adjuncts of a prosperous trade.

Few countries, indeed, are provided with such splendid natural harbours as are to be found at Vigo, Pontevedra, Carril, or, as the harbour is called in Spain, the Rio de Arosa, Ferrol, and Coruña, Vivero, Rivadeo, &c. All that is required is the construction of piers or quay-walls, and the provision of the necessary cranes, rails, stores, &c.

Before finishing this chapter we must say one word as to the state of the telegraphs.

The construction of these began shortly before 1862; in that year there were five miles in operation. There is now scarcely any town or

village of any importance in Spain that does not possess its telegraph office, and in all the more important towns the office is kept open all night. The charge for telegraphing anywhere within the country is one peseta, equal to one franc, for twenty words, address included, every additional word is charged ten centimes of a peseta. Spaniards are very fond of using the telegraph. The telegraphs were erected at the cost of and are under the control of the Government. All railway lines, which are considered of general public service, and as such receive a subvention from Government, have to provide two wires for Government use.

CHAPTER V.

CLIMATE, AGRICULTURE, AND IRRIGATION.

THE state of agriculture of any country is so much dependent on its climate, that before saying anything on that subject it will be advisable to give some slight information as to the latter.

All the interior portion of Spain may be said to be a vast table-land, elevated to a mean height, more or less, of some 2,000 feet above the sea. From this table-land rise the various chains of mountains that intersect the country in every direction, and which, though apparently of no great height as seen from the plain from which they arise, are a very considerable height above sea-level.

This configuration of the country causes the climate of the greater portion of Spain to be excessively dry.

The moisture brought up by the westerly winds from the Atlantic is detained by the high range of

mountains which form the outer edge of the great plateau of Spain, and, being there condensed, falls in abundant showers.

The air being thus deprived of its moisture before it reaches the great central portion, it follows that it is of excessive dryness. Thus, while the provinces of Alava, Guipuzcoa, Vizcaya, Galicia, and Asturias, lying on the Bay of Biscay and the Atlantic, have an annual rainfall varying from 80 inches to 40, the great central plains of Castile have only an annual fall varying from 12 to 20 inches. Nor is the rainfall in the provinces bordering on the Mediterranean coast much higher. In Alicante it is only about 13 or 14 inches per year, in Valencia about 16, in Seville about 17, whilst in the province of Murcia three or four years have been known to pass without the fall of a single drop of rain.

The heat during the summer months over all this portion of Spain is very great, and, as a consequence, the number of crops that can be grown without artificial irrigation is very limited. Wheat, barley, oats, and rye, are the staple crops, the olive, and a peculiar bean called the "garbanzo,"

being the only others capable of standing the excessive dryness of the air.

Pasture there is none. It is probable that in the early times of the Romans and Moors the climate was a good deal moister than it now is, but the constant and steady denudation of the forests—an evil that goes on unchecked to the present day—has led to a constant aggravation of the evil. Thus Madrid, which was originally a hunting-box of the kings, and surrounded by forests of pines celebrated for their bears and boars, is now situated in an immense barren plain, the arms of the city, a bear climbing up a green tree, alone bearing record to its former peculiarities.

The same insensate folly has been at work for ages all over the country, and the present inhabitants are now feeling the effects of the sad want of prevision of their forefathers.

On these large tracts of land, much of them composed of fine alluvial soil, the farmer considers himself fortunate if he succeeds in raising a scanty crop of wheat every two years, but more frequently one crop in every three years is nearer the mark. From the lack of pasture, and consequent absence

of cattle, no manure is obtainable; but even if it were, the want of water prevents its application. Under the fierce sun that pours down its rays on these plains, unchecked by any cloud, manure does more harm than good, and in place thereof the farmer has to leave his land fallow for at least one year after taking off a crop. As a rule he divides his farm into two "hojas" (leaves), as he calls them, and cultivates them alternately; the only manure that the ground receives being that derived from the straw, of which a length unusual in England is left upon the ground. In the great plains of Castile the last rain that falls is usually in May or June, and it is on this rain that the farmer depends for his crop. If this fails him, his grain does not ear, and he gets no crop at all, or so scanty a one as to be scarcely worth the reaping.

From June till the middle of September or beginning of October no rain falls.

As might be expected under such circumstances, the system of agriculture is the most primitive. The plough used is that familiar to us in old drawings; it is merely a pointed stick shod with iron, the office of the share being performed by another

stick projecting at right angles to the plough. The land is thus scratched to a depth of a few inches, and into the furrows so prepared the seed is cast, in touching faith that the Virgin or some of the numerous saints will provide the necessary moisture for its development.

If from these barren, arid plains we now pass into some of the old irrigated districts such as those of Valencia, Murcia, or Granada, the change is too wonderful for description. The marvellous fertility of these districts has been the theme of all travellers through them. Here the land never rests; crop succeeds crop with amazing rapidity; every inch is cultivated. Groves of oranges, lemons, and pomegranates, the branches bending under the weight of their golden crop, diversify and beautify the landscape; the edges of the life-giving watercourses are planted with mulberry trees, the food for the silkworms, which are the care of the women of the household; little white-washed thatched cottages dot the landscape in every direction; and the whole bears an aspect of well-being and contentment at strange variance with the sombre-looking country we have so

recently left. In these irrigated districts a plot of five acres supports a whole family in moderate comfort, for not even in this favoured land would Mr. Chamberlain's famous "three acres and a cow" be sufficient for this purpose.

Almost every kind of crop is 'grown, from the staple wheat down to the cactus, which serves for the production of the cochineal insect; two, and even three, crops a year are taken in constant and never-ceasing succession. Lucerne gives from ten to twelve cuttings in one year, a period of fifteen days being sufficient to allow of the growth of a new crop. The land is richly manured, a large amount of guano being sold in the Mediterranean ports for this purpose.

It seems strange that with such wonderful examples of the effect of water before their eyes, no Spanish minister has ever thoroughly taken up the subject of irrigation.

Whilst we have to record the immense progress made by Spain in the development of her railway system during the last twenty years, the history of irrigation is a blank. Whilst the nation has paid away to private companies a sum close upon

twenty-five millions sterling as a free gift for the fostering of Railways, not one penny has been granted for irrigation, and yet the want of water is the crying evil under which agriculture in Spain labours, and without it no great development can be given to it. It is true that some fifteen years ago a law was passed having for its object the fostering of irrigation canals, but its provisions were practically useless, and so useless that no one has ever attempted to avail themselves of them.

Irrigation schemes, whilst increasing enormously the revenue of the country, are notoriously fatal to the pecuniary interests of the constructors, and the causes for this are not far to seek.

Dry land in Spain can produce only, as we have said, one crop in every two or three years; the same land when irrigated and manured will produce at least two crops per year. To convert, therefore, an unirrigated valley into irrigable land it is necessary to quintuple the population; it is necessary to have manure, and capital to buy it. This means an entire revolution in the customs and habits of the people, and in a nation so conservative as the Spaniards the process of develop-

ment must be very slow ; and if the constructors of the canal are to be paid by the sale of the water, it is evident that they can never expect any return for their capital in any reasonable period. But although the constructors of the canal may not gain, the nation—gains indirectly in the increased production gained from the land, and directly from the taxes levied on it. This has been abundantly shown in India. The fostering of irrigation therefore is a thing in which the Government has a direct interest, and it would appear to be a case in which they might and ought to intervene, either by guaranteeing an interest on the capital invested or by granting such a subvention as would tempt people to invest their money in them by showing them that they might fairly expect some remuneration for the then limited capital they would have to employ.

Without some such stimulus it is hopeless to expect private enterprise to embark in such undertakings.

To show the urgent need of irrigation, we present a table in which is shown, graphically, the comparative annual rainfall in Italy, Algeria, and

TABLE
OF MEAN AND MAXIMUM TEMPERATURE ,
AND MEAN RAINFALL IN ITALY AND SPAIN .
MARCH TO SEPTEMBER .

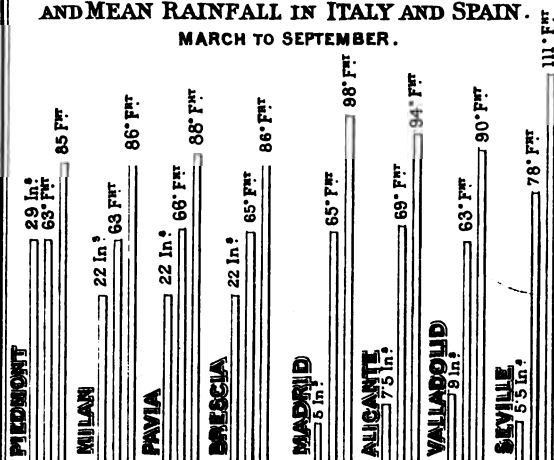
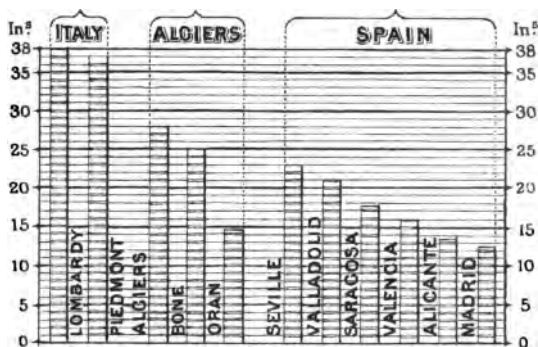
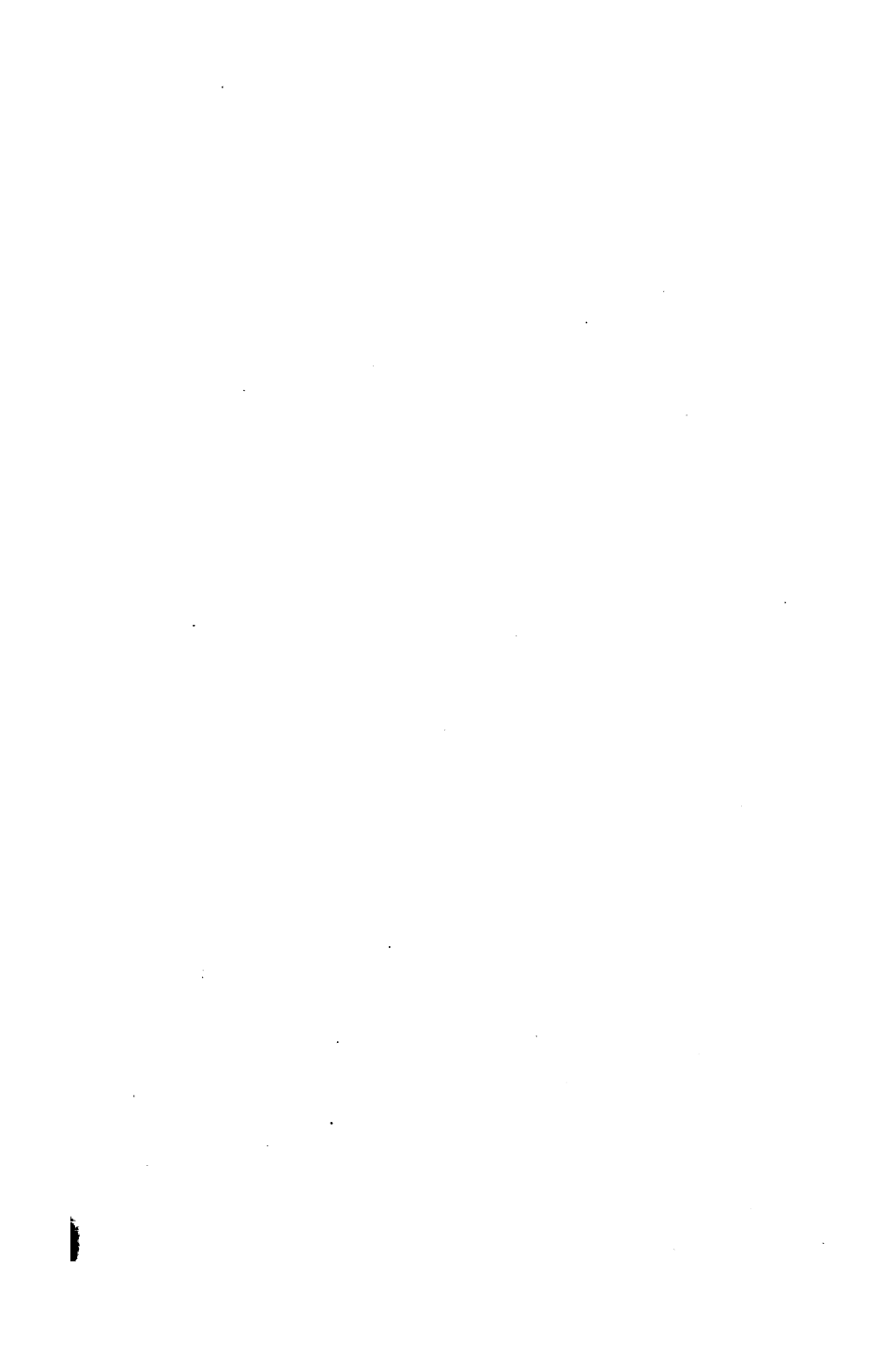


TABLE
OF
MEAN ANNUAL RAINFALL
IN ITALY, ALGERIA, AND SPAIN .





Spain, and the rainfall and temperature in Spain during the irrigating months, from March to September, in comparison with that in the well-known irrigated districts of Piedmont and Lombardy. If more were needed, the increased value given to the ground by the application of water will supply it. In the irrigated districts of Valencia and Murcia, irrigable land sells for prices varying from £150 to £400 per acre, according to its situation or quality; dry ground in the same neighbourhood sells for prices varying from £7 to £20, this latter being quite an outside figure. Naturally, irrigable land in the climate of the shores of the Mediterranean is worth more than in the colder plains of Castile, but the proportionate value of dry and irrigable ground is never less than 1 to 10, or 12, that is to say, that irrigable land is always worth from 10 to 12 times the value of dry ground.

When we recollect that the principal item of revenue of the Government is derived from the land tax, and that this is calculated on the value of the land, we see what a direct interest the Government has in fostering irrigation, quite apart

from that which it ought to have in increasing the population of the country and developing its resources.

Most, indeed almost all of the irrigation schemes at present in operation are of very ancient date, the most important of them dating from the time of the Moors, and in some of them, notably in Valencia and Murcia, descendants of the old Moors, clad in the same picturesque dress which their ancestors wore, still cultivate the land which their forefathers tilled eight hundred years ago.

In most cases the water is now attached to the soil; in some, as for instance in Lorca, it is separated. In this place the water is in the hands of a large number of proprietors, who may or may not be holders of land, and it is sold by public auction every morning during the irrigating season under the supervision of an inspector, named by the Government, who is not allowed to be a native of the place or connected by marriage with it; each peasant buys the amount he requires for the day, and pays for it in advance, and the proceeds are divided amongst the various proprietors of the water.

The average value of a cubic foot of water per second per annum, in this place, is £2,300. The same amount in Piedmont or Lombardy is worth from £15 to £17.

The following table gives the names of some of the principal irrigation systems and their areas :—

	Acres.
Castellon from the river Mijares - -	22,373
Valencia „ „ „ Turia - -	25,985
Do. „ „ „ Jucar - -	30,875
Gandia „ Alcoy and Bernisa - -	7,145
Murcia „ Segura - - - -	25,915
Orehuela „ „ - - - -	50,818
Elche and Cieza from Segura - - -	10,370
Granada from Darro and Genil - -	46,930
Lorca „ Guadalentin - - -	27,170
Elche „ Vinalopo - - - -	29,640
Almansa „ a dam - - - -	3,458
Alicante „ „ - - - -	9,139
Nijar „ „ - - (about)	9,000
Catalonia, river bank of Llobregat - -	6,651
Imperial Canal of Aragon (Ebro) - -	50,066
Royal Canal of Tausté - - - -	19,284
English acres	374,269

In addition to these there are numberless other irrigation areas of greater or less extent, such as those of Baza, from the river of the same name, Guadix from the river Fardes, Leon from the Esla, Malaga, besides those from small streams and the small areas irrigated from wells.

The total area of irrigated ground in Spain, according to the Government returns, is 4,439 square miles; and as the total area of Spain, according to the same returns, is 190,497 square miles, of which 46 per cent. is returned as being under cultivation, it follows that of the cultivated ground $4\frac{1}{2}$ per cent. alone is irrigated.

To show the proportionate population that can be carried by irrigated ground, we may say that, whilst the rate of population in Spain is only 81 to the square mile, the irrigated portion of Murcia carries 1,681 inhabitants per square mile, and Orihuela 767. Were the portion of Spain now under cultivation populated at the rate of the irrigated portion of Orihuela, the total would be 78,576,082, instead of being, as it is, only $16\frac{1}{2}$ millions.

It is of course impossible that the whole culti-

vated land of Spain should ever be irrigated ; but there are splendid valleys down which great rivers roll their waters uselessly to the sea, every cubic foot per second of which is worth at the least £100 or £150 per annum, if trained over the thirsty land which borders their banks. Such is the splendid valley of the Guadalquivir, from Palma to Seville, and onwards to Utrera. Such is the rich valley of the Guadiana above Badajoz, not to mention a host of others of minor importance.

For many of these concessions have been long granted, but without aid from Government it is impossible for any one to find the money necessary to construct them. If one-sixth of the sum that has been granted as subventions to railways had been spent in assisting these most necessary enterprises, most of these more important canals would now be pouring their fertilising streams over these arid plains.

When we think of the millions of money which have thus been allowed to pour uselessly to the sea, and consider the amount of well-being and comfort that might have been bestowed on thousands by the proper utilisation of these gifts of

Providence, we can only be amazed at the apathy of the people and the culpable neglect of their rulers that have allowed such things to be.

We have not been able to obtain any reliable statistics as regards the present state of agriculture in Spain. The returns given in the earlier years do not seem to have been continued at later dates.

In 1859, according to the then published returns, the number of cattle of all kinds, including amongst them horses and mules, was 26,014,938 ; in 1865, according to the same returns, it was 36,622,818 ; showing an increase of 10,607,975 animals, or say 40·78 per cent. in the six years. What are the returns for 1882 we have been unable to find out, though doubtless they are obtainable in some form. Apart from the old, well-known irrigated districts of Valencia, Murcia, and Granada, where the land is cultivated to the greatest extent possible, agriculture in Spain is at a very low ebb, and may be said to have remained in a stagnate condition for the last three hundred years. The great plains of Castile and Estremadura produce wheat of an admirable quality, but of a very limited quantity

in relation to the acreage under cultivation; in fact, Spain scarcely produces wheat sufficient for her own consumption, and the slightest failure of crops necessitates a recourse to outside production.

Thus we have seen that in 1882 Spain had to import foreign wheat to the value of £2,762,069, and at the present moment wheat is being imported into Barcelona from Bombay.

The value of the wheat imported is small if compared with that imported by England, but we should bear in mind the much smaller population of Spain as compared with that of England, and the difference of climate. Spain might, and could, easily grow all the grain she requires for her own consumption, and the loss of two or three millions sterling paid away in one year to other countries for her staple article of food is a very serious loss to her.

Within the last ten or fifteen years the cultivation of the sugar cane has developed very considerably on the southern coast, notably about Malaga and in the shore district eastwards—at Velez, Malaga, Motril, and other places. The initiation of this class of cultivation was principally due to



the late General Concha, better known by his title of Marques del Duero. This patriotic gentleman spent a large portion of his private fortune in the introduction of cane cultivation, with the result usual in such cases—his fine estates near Malaga passed into other hands when he should have been reaping the rewards of his patriotic endeavours. The cane farms about Malaga were for many years productive enterprises, but during the last few years they have been under a cloud. The cheap bounty-favoured beet sugar of Germany, although paying a considerable import duty, has been able to compete favourably with the home-grown sugar, and the Spanish cane growers are now clamouring for an increased import duty to protect the home manufactures.

The principal agricultural products exported from Spain are oranges, raisins, grapes, and fresh vegetables. This latter production has only sprung up of late years, but is already becoming a source of considerable revenue to the growers. From the irrigated districts of Denia and Gandia, lying south of Valencia, large quantities of early vegetables, such as potatoes, asparagus, peas, lettuce;

&c., are sent by express trains to Paris to supply the market there, very remunerative prices being obtained for these productions of that favoured zone. The orange crop, a most important one for the South of Spain, is already beginning to suffer from the increased development given to the growth of oranges in Florida. The United States market will, not improbably, be soon entirely lost to Spain, and she will be fortunate if she does not soon find the Florida oranges competing with her in the European markets.

Resuming, we may say that, whilst Spain has shown a most notable advance in almost all the other elements of public wealth, her agricultural position remains, more or less, what it has always been. The march of her agriculture has not kept pace with the other elements of her national life.

We have seen that her Government has made no attempt to develop or increase the irrigation of the land, a point of primary importance for Spain, and one with which private enterprise is unable to cope.

But other causes are at work to cause the stagnation visible in Spanish agriculture.

Apart from Andalucia, where large farms still exist cultivated in the old patriarchal style, the land in Spain is held in small farms by men without the means or the knowledge necessary to successful cultivation. The introduction of the French system of inheritance, whereby the State apportions the divisions of the property amongst the children, without reference to the wishes of the father, has led to the breaking up of the large estates, and not only of the large ones but of the smaller ones also. In the course of one or two generations the result has been that a farm that was sufficient to support the grandfather in comparative ease has been divided up in small fragments, none of which are sufficient to maintain the grandchild who has inherited it. In some parts of the country a field of eight or ten acres may be seen divided up into ten or twelve ribbons each a few furrows wide. Proper or successful farming is, in such cases, quite impossible; the unhappy owner has to go away to look for work on the railways or any other public work that may chance to be going on; but his land clings to him like a curse. As a workman he is unsatisfactory,

for probably when he is most wanted he disappears for a week or two to plough his ground or reap his crop. He is, as the old English proverb says, "Neither fish, flesh, fowl, nor good red herring," and neither he nor his land are really of any use to their country; the possession of his few acres prevents the man from dedicating himself heart and soul to any suitable occupation, and chains him to the neighbourhood of his property, whilst the land, under this perfunctory system of cultivation, gradually sinks from bad to worse, until it becomes difficult for an unpractised eye to discriminate the crop from the weeds. The wretched and miserable appearance of much of the cultivated land in the unirrigated districts of Spain, which the traveller notes in his journey through the country, will be found on examination to be due principally to the causes enumerated above.

It is difficult to point out any practical cure for the present languid condition of Spanish agriculture. The construction of irrigation canals in the principal valleys watered by the greater rivers would certainly increase considerably the produc-

tion of the land, but such schemes would require very careful nursing for their development, and would be slow in their results. An improvement in the system of cultivation of dry lands is a question of individual enterprise, for here the Government cannot interfere with any advantage, and under the existing system of inheritance it is difficult to see how such individual enterprise can be expected. On the whole, we should be inclined to say that the future of Spain lies not in her agriculture, but in the development of the arts and manufactures for which her soil and people are admirably suited, and in which she would not be so much hampered by legislative enactments as she is in her agriculture.

CHAPTER VI.

RÉSUMÉ.

FROM the foregoing brief and hurried survey of what Spain now is and how she has advanced during the last twenty years, it will be seen that a very real and palpable progress has been made, a progress all the more remarkable if we consider the "bridal dawn of thunder peals" which has heralded the "marriage of thought and fact" in her case. Her financial progress has not been less remarkable than her industrial and commercial advance—her revenue which in 1854 was £18,181,398 had increased in 1864 to £26,173,073 and in 1882 to £31,239,809. In this year (1881-2) she first indulged in the (to her) unheard-of luxury of a surplus, and, though it was small, yet let us hope it was a forerunner of better things hereafter. The coupons of her debt are now paid regularly every quarter, and there seems to be no reason why she should not now enjoy an era of peace and prosperity undisturbed by those political changes which are so fatal to her well-being.

If we were to take the market value of her debt as an index of what is expected of her, we should not certainly feel great confidence in her future.

At their present price they give an interest of nearly 7 per cent., much too high a figure for a settled and steadily progressive country; but in reality Spanish stock seems to be much lower than the circumstances would warrant, and that it is so must probably be set down to her past history.

The Spaniards have a proverb that says, "A scalded cat flies even from cold water;" and the creditors of Spain have been too much scalded in olden times to forget in a few years all that they have passed through.

We must add to this that there are numbers of people interested in keeping up a state of excitement and uncertainty as regards her future. In the capital of the neighbouring country there exists a regular ring of speculators who fabricate information for the express purpose of raising and lowering the funds accordingly as it may suit their interests, nay, who—it is currently said—do not hesitate at finding money to enable the self-styled patriots to start some of those hopeless enterprises

which we have seen of late years, regardless of the fact that the unhappy dupes of their intrigues often pay the penalty with their lives.

In England, as has been before said, any story about the country is readily believed if only it is sufficiently exciting; the words "Spain" and "revolution" being in the minds of most Englishmen synonymous terms; and it would really appear sometimes as if the correspondents of the daily papers thought it was their duty not to defraud the expectations of their countrymen and to furnish some kind of exciting news at all hazards. Thus a fictitious excitement is always kept up, and the steady investing class are prevented from purchasing.

A better index of the state of the country may be found by observing the value of stocks which are not held abroad, and are not, consequently, subject to the oscillations which it is the interest of speculators to produce in the ordinary funds of the country. Such an index may be found, for instance, in the shares of the Bank of Spain. This institution is so directly connected with the Government that any radical change must affect it most closely.

The shares of the Bank are all strongly held by the most influential people in Madrid—men who have access to all the best sources of information, and men who could foresee, if any men could, any troubles that were preparing in the future.

These stocks will not be found to oscillate in the same manner as the ordinary funds ; they remain remarkably firm beneath all the reports of so-called risings and revolutions, and have been and are steadily on the rise. This would seem to indicate clearly that the holders of this stock are not apprehensive for the future of Spain, but that on the contrary they have a firm belief in her steadiness and progress.

Another sure index as to the more settled state of the country may be found in the value of money in Madrid. Not very many years ago it was possible to obtain interest at the rate of 10 or 12 per cent. on money lent on mortgage of house property, which is there looked upon as the safest kind of mortgage. It is now not possible to get more than 6 per cent. for money so lent, and even this is coming to be considered a high rate.

This is a pretty sure sign that money is accu-

Résumé.

mulating and is seeking employment, in p
being transmitted to England for investment. . .
was the case during the troublous times that succeeded to 1868.

As a matter of fact the Spaniards are now beginning to invest in industrial enterprises in their own country. They are building railways with their own capital, erecting foundries and ironworks, constructing harbours, waterworks, and factories. The number of native holders of their own funds is steadily on the increase, and for some time there has been a steady flow of the bonds of the exterior debt to Spain to supply the investors in that country.

Every dollar that is so invested is a guarantee against revolutions and "pronunciamientos," as the only effect such things can have is to depreciate the fortune of the holders of stock. The number of those who have something to lose is on the increase, and they are less and less disposed to allow the idle, impecunious members of society to trouble the waters for the mere sake of fishing up something for their own benefit.

This will explain the reason why the last at-

tempts at republican risings have been so coldly received by the country, and have fizzled out before they had even well begun. We cannot indeed say that the era of revolutions and "pronunciamientos" is over. This would indeed be too hopeful a prophecy. Oscillations we must expect before the country settles into a state of stable equilibrium ; the old Adam cannot be at once eliminated from the body politic, and adventurers will still arise who will endeavour to carry on the old game. But the tendency of the country is towards rest and peace, a tendency which every mile of railway that is opened, every industrial enterprise that is started, tends to accentuate and strengthen.

The Spain of 1885 does not want revolution ; it is beginning to find out that no good end is served by such proceedings ; that, in fact, they affect too dangerously the money interests of the country ; and the industrial classes are beginning to discover that in such cases it is they themselves who in the long run have to pay the piper, and that it is at their expense the political notabilities of the age climb up to their positions.

The appreciation of this fact is extending rapidly *amongst all classes in Spain*, and we may probably

look forward with confidence to a continuous and rapid increase in the commercial development of the country, and to a corresponding diminution in the frequency of its political changes.

It is extremely unfortunate that at this juncture reports, more or less well founded, should be raised as regards the health of the young King,* who during the short time he has been on the throne

* The ink was scarcely dry on this paragraph when the telegraph brought in the dreadful news of the young King's death. Those who know Spain well can best appreciate at its true value the loss which Spain has sustained by this unhappy circumstance. The future will show whether or no the opinions we have expressed have any basis of truth. So far, the deportment of the people has been all that could be wished. Señor Canovas, with rare patriotism, has adopted a line of policy which might indeed have been expected from his antecedents, but which not every public man in his situation could or would have adopted. By placing the reins of power in the hands of his liberal antagonists, and promising them the support of his own party, he has destroyed all incentive to intrigue, and rallied the members of both parties round the Throne in defence of the Crown and constitution. It remains to be seen whether Señor Sagasta has the power to direct the ship of the State with a firm hand, and to subordinate to the general good the discordant elements of which his party consist. If he can govern the great Liberal party with as firm a hand as Señor Canovas does the Conservative one, no danger is to be apprehended either from Republicans or Carlists. These can only be strong in proportion as he is weak.

has shown such ability to govern as a constitutional monarch. Ill-fated is the kingdom whose sceptre is wielded by a child; and should this be the ill-fate of Spain, there is no doubt that the needy adventurers, whose trade is now almost extinct, would again endeavour to take advantage of the circumstances and to turn them to their own individual aggrandisement, but, even so, the experience of the last twenty years should render us hopeful of the country.

It is not probable that Spain would ever again be called upon to undergo such a period as that from 1868 to 1875, and we have seen that even under such adverse circumstances the country has steadily prospered and advanced.

Spain has one very decided advantage over most European nations in that she has not, and never has had, a paper currency,; her internal credit is therefore more stable, and those whose capital is at stake have not to undergo the fatal collapse that political disturbances bring on those countries where the basis of finance is fictitious.

It seems strange that Spain during all her financial troubles has never had recourse to paper

money, but so it is ; the very notes of the Bank of Spain, up to quite recent years, were not current outside the walls of Madrid, and indeed had but a limited currency inside them. In the provinces the very branches of the Bank would only change the notes of the Central Bank under discount.

Quite lately a class of note has been issued by the Bank which is accepted by the branches of the principal provincial towns, and these are now taken to a limited amount in the more important business centres of the larger towns, but their currency is very limited. Over the greatest portion of Spain gold and silver is the only medium of exchange, and the unwary traveller who is ignorant of this may find himself in a precarious predicament if he carries only Bank of Spain notes.

This, which is doubtless an obstacle to the extension of business on a large scale, has this advantage, that it prevents a dangerous panic in troublous times. Whatever revolutions may take place, and whatever Governments may rise or fall, the individual Spaniard suffers little or nothing in his capital, and it is on this account that the country has suffered so little, relatively speaking, from the

political cataclysms she has passed through. On the other hand it must not be forgotten that this very security from individual loss makes it easier for political adventurers to agitate the country, and it is probable that if there had been a paper currency, the depreciation of which would have been felt by each individual member of the community, they would not have displayed such indifference to the disturbers of Government. Spain is never likely to have a paper currency, it would be an absolute impossibility for any government or minister to carry such a measure, and even if carried by a subservient Cortes, it would be practically inoperative, as no power, human or divine, would ever be able to compel the people to accept it. But the same effect will be, and is being produced by the investment of moneys in industrial and commercial enterprises, and it is to this and to the development of the trade of the country we must look for the gradual extinction of "pronunciamientos" and revolutions.

One word before concluding as to the character of the working classes. The untravelled Briton is perhaps of all men the most prejudiced, and the

extraordinary hallucinations that are entertained in England as regards Spain and her people would be laughable were they not lamentable. Spain, in the mind of the ordinary Englishman, is enveloped in a fantastic halo of romance. The people, when not smoking cigarettes, are supposed to recline under orange-trees or, dressed in the style of Figaro, to be "twirling the jocund castanets."

The Spanish working man is really a most sober, hard-working being, not much given to dancing and not at all to drinking. They are exceptionally clever and sharp, and learn any new trade with great facility. They are, as a rule, exceedingly honest, perfect gentlemen in their manners, and the lowest labourer has an *aplomb* and ease of manner which many a person in a much higher rank in this country might envy. When in masses they are the quietest and most tractable workmen it is possible to have to deal with. The peasant and working man, the real bone and sinew of the country, are as fine a race as one might wish to meet with, not free from defects—what race is?—but possessed of excellent sterling qualities which only require knowing to be appreciated. I cannot

v

say as much for the Government *employés* and politicians. Connection with politics seems to have a corrupt and debasing effect, which, although perhaps exaggerated in Spain, is unfortunately not by any means confined to that country only.

